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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,475	12/20/2004	Torbjorn Ling	02386.0096	3599
22852 7590 01/24/2008 FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER LUK, EMMANUEL S	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 01/24/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/518,475

Applicant(s)

LING ET AL.

Examiner

Emmanuel S. Luk

Art Unit

1791

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-28 is/are pending in the application.
- 4a) Of the above claim(s) 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/25/06; 4/21/05; 12/20/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Status of Claims:

Claims 1-12 have been cancelled by applicants.

Claims 13-27 are pending in the application.

Claim 28 have been withdrawn from examination as per non-election by the applicants.

Election/Restrictions

2. Applicant's election without traverse of claims 1-18 in the reply filed on 11/1/07 is acknowledged. Examiner notes that Applicants have stated reserving the right to file a divisional application on non-elected claim 28.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
6. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chou (WO 00/00868, see IDS) in view of Mattox (Handbook of deposition technologies for films and coatings: Science, technology and applications) and Jaszewski (Microelectronic Engineering 35, from IDS).

Chou teaches the use of release materials in lithographic apparatus and method for creating ultra-fine patterns (sub-25 nm) in a thin film on a substrate from a mold (see abstract). Chou teaches a coating of molecules from a specific type of reactive compound, the compound having a halogen or cyano element, especially Cl, F, or Br (see page. 8, line 22), silane is also mentioned (pg. 18, lines 21-31). The mold surface can be of any surface to which the release providing molecules may bond (pg. 10, lines 3-4), the release surface may be metallic, or metal oxides, as is known in the molding

art (pg. 10, lines 5-9). The mold layer 14 having a plurality of features 16 and having a release layer 17 bonded to the surface of the features on the molding layer (pg. 11, line 16 to pg. 12, line 33).

Chou fails to specifically teach the process of applying the metal layer, oxidizing the layer of metal to form an oxide film and then applying the reagent on the oxide film.

Mattox teaches the construction for surface materials including oxidizing techniques (p. 87), the sputtering of the material, of film materials (p. 83) in different gas environments. It is known in the art that the metal oxide layer can be as thin as 50 to 1000 nm, (as seen in background reference, Breen US 6,380,101).

Jaszewski teaches the different applications of such as sputtering or plasma polymerized of the films onto a metal surface (p. 381, experiment 2.1).

One would be motivated to use Chou, Mattox, and Jaszewski, since all pertain to construction of layers. Both Chou and Jaszewski discuss a protective layer on a metal layer while Mattox deals with the construction of surface layers. All are relevant to one skilled in the art for films and coatings particularly for the creation of microstructures.

It would have been obvious for one of ordinary skill in the art to modify Chou with the formation of the metal layer as taught by Mattox as one means of depositing a metal and oxidizing the metal layer, and the application of the anti-adhesive film onto a surface as taught by Jaszewski for application of the thin film layer.

7. Claims 21, 22, 25, and 27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chou (WO 00/00868, see IDS).

Chou teaches the use of release materials in lithographic apparatus and method for creating ultra-fine patterns (sub-25 nm) in a thin film on a substrate from a mold (see abstract). Chou teaches a coating of molecules from a specific type of reactive compound, the compound having a halogen or cyano element, especially Cl, F, or Br (see page. 8, line 22), silane is also mentioned (pg. 18, lines 21-31). The mold surface can be of any surface to which the release providing molecules may bond (pg. 10, lines 3-4), the release surface may be metallic, or metal oxides, as is known in the molding art (pg. 10, lines 5-9). The mold layer 14 having a plurality of features 16 and having a release layer 17 bonded to the surface of the features on the molding layer (pg. 11, line 16 to pg. 12, line 33). Claim 21 states that the metal has been applied to the surface and then brought to oxidise and then applying the anti-adhesive layer. These are process limitations to making the apparatus and Chou already teaches the claimed structure. Alternatively, it would have been obvious to one skill in the art that any process can be used to create a structure, therefore Chou teaches this claimed structure.

8. Claims 23, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chou (WO 00/00868, see IDS) as applied to claims 21, 22, 25, and 27 as shown above, and further in view of Breen (6380101).

Chou teaches the claimed apparatus as shown in the rejection above of claims 21, 22, 25, and 27. Chou fails to teach the specific thicknesses.

Breen teaches a metal oxid layer having a thickness of 50 to 1000 nm.

One would be motivated to use Chou and Breen since both pertain to apparatus that create micro and nanoscale surfaces, and both pertaining to metal layers having a protective antiadhesive layer. Both teach the use of a protective layer on a metal layer and thus both are relevant to one skilled in the art for films and coatings particularly for the creation of microstructures. Thus, it would have been obvious for one of ordinary skill in the art to modify Chou with the thickness of the metal oxide layer as taught by Breen.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Aslan 2006/0159909 and Matje 2007/0054057.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571) 272-1134. The examiner can normally be reached on Monday-Fridays from 9 to 5.

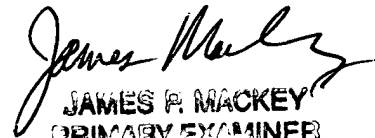
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EL


JAMES P. MACKEY
PRIMARY EXAMINER

1/22/08